

NPIC/TSSG/PPS-001-70
8 January 1970

MEMORANDUM FOR: Chief, Technical Services & Support Group, NPIC

SUBJECT: PPS Monthly Report - December 1969

A. During December, the Projects and Programs Staff conducted staff functions for TSSG and also carried out the following additional actions:

1. Made complete distribution of the 1969 NPIC Equipment Summary.
2. Prepared for, conducted, and reported on the [] meeting for December. 25X1
3. Coordinated the TSSG portion of the Five Year Plan for submission to PP&BS.
4. Began preliminary work for TSSG on the Mid-Year Budget Review.
5. Worked with the Office of Training on TSSG requirements for recruitment of Coops and Summer Interns.

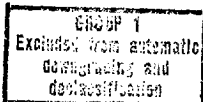
B. During January the following significant actions are anticipated:

1. Work on planning papers for [] 25X1
2. Prepare for and conduct the [] meeting for January. 25X1
3. Work extensively on the Mid-Year Budget Review for TSSG.
4. Staff the personnel evaluation program by providing the Panel B Chairman to work on evaluations of GS-11's using the new evaluation forms.

[] 25X1
Chief, Projects & Programs Staff, TSSG, NPIC

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TSSG/ESD-2/70
7 January 1970

MEMORANDUM FOR: Chief, Technical Services & Support Group, NPIC

THROUGH : Chief, Projects & Programs Staff, TSSG
Executive Officer, TSSG

SUBJECT : ESD Activity Report - December 1969

1. Noteworthy Events -- December 1969

a. Project Activity:

(1) EPB recommended that [] proposal to correct oil leak problems on MIM-47 and MIM-45 light tables be accepted. A decision was made (by SC&PS) to have [] proceed with the repairs. EPB also recommended a one year warranty on repair. 25X1

(2) EPB arranged for the local [] representative to conduct orientation classes for IEG on the correct use of microstereoscopes. Three classes of 15 each will be conducted. 25X1

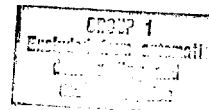
(3) Coordination of the proposed NPIC Instruction to cover Technical Equipment Maintenance was completed after resolution of several points with PSG.

(4) Twenty IEG P.I.'s were briefed on the [] Twin Stage Comparator currently undergoing test and evaluation. 25X1

(5) Two light tables were taken to NBS for measurement of light rendering properties to provide TEB with a data base for color coordinates, correlated color temperature and color rendering index.

(6) A Memorandum Test Report on the [] Binocular Tube Magnifier was issued. The high power magnification mode was found still to be deficient but performance in the low power mode appears satisfactory. Operational evaluation of the low power assembly was started. 25X1

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(7) The [] prototype 1540 Light Table Test Report was issued.

(8) Requisitions (9K) for instrumentation for measurement of color rendering properties of light tables were placed in process.

(9) A requisition (8K) for maintenance training on Sanders Display Devices was placed in process.

(10) Engineering testing of the [] Twin Stage Comparator was completed.

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(11) A light table brightness survey was started by TEB [] in cooperation with IEG.

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b. Personnel Activity:

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(1) [] student co-op, ended his first work session in TEB on 19 December 1969.

(2) [] student co-op, started his second session in TEB on 22 December 1969.

2. Anticipated Events -- January 1970

a. Project Activity:

(1) Initiation of Test and Evaluation of the Digitized Measuring Light Table.

(2) Completion of an Interim Report on the Twin Stage Comparator.

b. Personnel Activity:

None

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Chief
Engineering Support Division, TSSG

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NPIC/TSSG/RED-013-70
8 January 1970

MEMORANDUM FOR: Chief, Technical Services & Support Group, NPIC

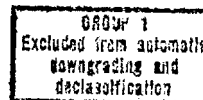
ATTENTION : [] PPS/TSSG

SUBJECT : RED Monthly Report on Significant Events (December 1969)

A. Significant Items of Interest for December 1969

1. [] Contract - Center personnel attended a preliminary demonstration on 16 December 1969 at []
The purpose of this demonstration was to present some results of an RED contract with [] The contract required the demonstration of the ability of a display system to solve some typical problems at NPIC.
2. Automated Film Transport Systems - Requests for proposals for a Study of Automated Film Transport Systems were sent to nine contractors. Proposals on this study are due from the contractors on 19 January 1970.
3. SO-242 - A proposal for producing a color calibration grid for SO-242 is in preparation at [] Such a grid will permit us to convert data from color density measurements of SO-242 imagery to C.I.E. chromaticity coordinates, an objective description of color.
4. [] Computer/Calculator - A program was prepared for the [] computer/calculator to convert the spectral transmission of color filters to C.I.E. and U.C.S. chromaticity coordinates. This technique will facilitate the objective determination of color in color transparencies.
5. [] Image Manipulation - The draft final report covering [] participation in the in-house analog image manipulation and unconventional materials programs was reviewed and returned for revisions. The clean copy is currently awaited; meanwhile, a staff study recommending contract continuation with [] was submitted through channels.

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6. Tech/Ops T&M Contract - An exploratory task in image analysis was authorized under the [] will explore the feasibility of using their total optical color (TOC) system as a duping system for color films. Various black and white films will be tested and compared to color film dupes. Resolution tests of each sample will be obtained and, if possible, a modulation transfer function for various duping processes will be made. Work on this task will begin in January, 1970.

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7. High Precision Stereo Comparator Program - [] project manager visited [] the optical subcontractor, to review the progress on the optical system. [] has slipped on its delivery schedule. The optical acceptance tests will start the end of February instead of the middle of January 1970. This affects the entire program schedule and the new date for the delivery of the instrument to NPIC will be the end of July 1970.

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8. [] - An updated unsolicited proposal was received from [] This proposal is for a phased research program for a new positive/negative photoreproduction material. These proposals are now being evaluated.

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9. Dry Diazo Photoreproduction Material - On 17 December 1969, a working prototype heat processor for dry diazo photoreproduction material was delivered to NPIC. This piece of equipment, along with a small amount of experimental heat processed diazo material is presently undergoing operational evaluation by IEG personnel. It is planned that suggestions and recommendations from this operational evaluation will be applied to planned program for the modification of an old [] P.I. photoreproduction light table to the new non-ammonia system.

10. RED Personnel Action - [] of RED/SRB will be leaving the Division on 16 January to work with [] of PPBS.

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11. []'s Mid-70's Report - The Executive Director, NPIC was briefed 23 December on the [] report "Mid 1970's Photo-interpretation Workstation Concept" [] As a result of that briefing:

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a. RED was directed to provide all Group Chiefs with copies of the report;

b. The Executive Director, NPIC would convene a meeting of the Group Chiefs to evaluate the recommendations (date to be announced);

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SUBJECT: RED Monthly Report on Significant Events (December 1969)

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- c. The [] was directed to provide the Executive Director, NPIC with a revised summary of the manpower/hardware requirements for each Concept (due 16 January);

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- d. The [] was alerted to be prepared to meet with Center personnel to answer questions that may arise from the Group Chiefs' evaluation.

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[]
Chief, Research & Engineering Division,
TSSG

Attachment:

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1. []

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8 January 1970

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MEMORANDUM FOR: Chief, Research & Engineering Division, TSSG

SUBJECT: Reconnaissance Systems Branch Monthly Report
December 1969

A. Significant Events for the Month of December 1969:

1. Volume I and Volume II of [] were obtained and given to Mr. Lundahl on 12 December 1969. Subject report pertains to the needs and requirements for high altitude photographic reconnaissance in the future. Specifically, it addressed the consideration for a product improvement program in the [] camera utilized in the [] 147-T program. River Bin report was funded and published by the Air Force Avionics Laboratory at Wright-Patterson AFB, Dayton, Ohio. [] of Wright-Patterson was the contact in this matter.

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2. Material from a [] mission in S.E. Asia was received in-house 2 December 1969 which used the [] camera system. This was the first time material from this camera system has been received or heard of. A technical manual on the [] camera system was obtained from the camera manufacturer [] and is maintained in the RSB library.

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3. [], Wright-Patterson AFB, requested by cable reference documents for use at the Air Force Avionics Laboratory. The Human Engineering Design Guide, Image Interpretation Equipment, January 1969; the Edge Trace Target Catalog [] November 1968; and the Edge Trace Target Catalog [], September 1969, were forwarded to [] on 30 December 1969.

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4. The ad hoc NPIC study group on near-real-time systems completed its work and submitted a draft of its report to [] on schedule. [] participated as a member from the Reconnaissance System Branch.

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5. At NRO's request, [] met briefly with [] to discuss a new project aimed toward developing a satellite SLAR system. NRO needs some NPIC guidance and suggestions on setting up the project. Additional follow-up discussions will be held in January.

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December 1969

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6. [] attended a preliminary design review for the [] ephemeris at [] during the week of 1-6 December 1969. He also visited the S.T.C., the AP, the "H" facility at [] and the [] ephemeris contractors.

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7. [] attended the [] meeting in the Executive Office Building on 9 December 1969.

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8. On 16 December 1969, [] visited the P.E. facility at [] for technical discussions.

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9. [] attended several color committee briefings. He also completed his Color Report [] and commenced briefing aids.

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B. Anticipated Events for the Month of January 1970:

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1. [] will attend the Complete Design Review for the Mission Performance Report, including contractor review, during 11-23 January 1970.

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2. [] will brief management on the Color Report.

3. During 12-23 January 1970, [] will attend the Space Orientation Course at Maxwell AFB, Alabama.

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4. [] will attend a meeting on 28 January 1970 at Wright-Patterson AFB, Dayton, Ohio, on the SENIOR PEG Program.

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[]
Chief, Reconnaissance Systems Branch,
RED/TSSG/NPIC

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6 January 1970

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MEMORANDUM FOR: Chief, Projects & Programs Staff, TSSG/NPIC

ATTENTION: [REDACTED]

SUBJECT: APSD Activity Report for December 1969

1. The following items of significant interest occurred in APSD during December 1969:

a. Collection/Exploitation Support

(1) APSD evaluated the product of: five [REDACTED] Missions (Cuba), four [REDACTED] missions (S.E. Asia), two [REDACTED] missions (off-shore China), three [REDACTED] test missions (1-USAF, 2-CIA) one [REDACTED] test mission, and both buckets of KH-4 [REDACTED]

(2) The project entitled Evaluation of Special Duplicates (451566) was initiated on 1 December 1969, at the request of the major processing site. They provided the APSD with a set of duplicates from each of six selected target areas. The targets chosen are of the naval variety and represent a range of contrasts and densities. Each set includes three second generation positives on film types 2430, S0-369 and 6451. Components of the Intelligence Community will be visiting the NPIC to view these prints and determine their usefulness in their respective areas of responsibility. In the interim, a speed letter has been issued to IEG, requesting support from the PIs. The goal is to develop meaningful PI questions to aid in determining the relative value of the products.

(3) On 9 December 1969, [REDACTED] presented a briefing to the [REDACTED] Steering Committee on S0-242 color film. The briefing included S0-242 photography from [REDACTED]. Considerable interest was shown and the briefing was well received.

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SUBJECT: APSD Activity Report for December 1969

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(4) Microdensitometric traces of segments of infrared imagery from Project [] (450867) were completed and presented to the requester [] (IEG).

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(5) The initial breakdown at the processing site of [] was accomplished with only minor delays. The TI copy was eliminated on both mission parts due to the satisfactory performance of the tape recorder. A complete report is currently being prepared.

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b. Research and Development Support

(1) The Color Task Force Committee has been meeting regularly to keep abreast of the progress of the exploitation and evaluation of the color material on []. The committee is establishing procedures for the exploitation and evaluation of the color portion of [] the current Red Dot series employing SO-242 and the 800 feet of color on the aft camera of [].

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(2) TSSG personnel, [] briefed analysts at CIA/OSI on some of the projects and procedures used within NPIC to improve image quality relative to the extraction of intelligence information. Further briefings have been requested. [] will contact TSSG/RED to make arrangements for future briefings (451573).

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(3) [] delivered the "NPIC Handbook for Original Negative Evaluation" on 29 Dec. That product officially fulfills [] commitment to NPIC; however, they have agreed to brief appropriate NPIC components on the contents of the document during the coming month (Jan).

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c. Applied Research

(1) A general Pan/Frame Aircraft Stereo Intersection Model was completed. Its function is to reduce the need for producing a specific intersection math

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SUBJECT: APSD Activity Report for December 1969

model for each aircraft system (450474).

(2) Under the Geometric Constraints Project (610097), a Fortran IV math model called "MODCON" was designed to compute one or all of the orientation parameters based on one to six of the following geometric constraints:

- (a) distance
- (b) horizontal plane
- (c) vertical plane
- (d) horizontal line
- (e) vertical line
- (f) azimuth

The use of this part of the Geometric Constraints Model may prove valuable with respect to data reduction schemes of aircraft photography where adequate knowledge of aircraft attitude and height is often lacking. MODCON has been checked out with the use of fictitious data generated by a sub-program simulating dimensional information. Plans are being made for testing MODCON with operational data from existing in-house camera systems (See Memo)

d. Coordination and Liaison

(1) APSD/IEB is coordinating the evaluation of the Red Dot series employing SO-242 film. Project 451451 folder contains the procedures to be followed and designates the responsibilities of the various components. To date, two missions have been flown and indexed . Another has been flown and is at the processing site.

(2) The APSD/IEB furnished the NRO, photographic and publication support throughout the month. Over one hundred color prints and fifty vu-graphs of the

SUBJECT: APSD Activity Report for December 1969

various collection systems were completed and turned over to representatives of the NRO. In addition, fifty copies of the cover for the KH-4 manual were printed and delivered to the NRO.

(3) On 12 Nov 1969, the APSD/OAB assumed the responsibility of briefing on the operational activities of the various aircraft and satellite systems at the Director's briefing. Each Tuesday and Friday since that date, a short presentation of operational activities of concern to the Director, NPIC and Group Chiefs has been presented.

(4) The APSD/OAB furnished the OSA publication support for the Idealist Program during the report period. Approximately fifty copies of several revised message formats were furnished to officials of the OSA.

2. The following action items are anticipated for the month of January 1970:

a. The APSD high priority workload for January appears to be at an all-time high; [redacted] PET is scheduled for 13 - 14 January; [redacted] is scheduled to be launched on the 13th; the APSD input to the "National Ad Hoc Color Committee" is due on the 30th; the division input to the IEG "NPIC Color Coordinating Committee" is due on the 15th and the division will be busy preparing data for the PIM and CCB meetings.

b. The division has received the 340 page "Handbook for Original Negative Evaluation" and will have to review the document for implementation potential. [redacted] contractors will visit NPIC in mid January to discuss their product and their proposal for other "handbook" contracts.

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SUBJECT: APSD Activity Report for December 1969

c. The APSD/ISAB plans to incorporate the above mentioned geometric constraints model into the AP-3 pre-processor and continue its present approach to geometric constraints from a mathematical point of view as opposed to the photogrammetric point of view.

d. The APSD/ISAB also plans to submit best estimates of [] error estimates (variance and covariance) to IEG for the precise measurement study.

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Chief, Applied Photo Science Division
TSSG/NPIC

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